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(54) Title: FK-506 CYTOSOLIC BINDING PROTEIN

(57) Abstract

A new homogeneous cytosolic binding protein (FKBP12.6), having a specific binding activity of about 4.8 mg FK-506 per mg protein and a molecular weight of about 10-12 kilodaltons, reversibly binds the immunosuppressant FK-506, but not cyclosporine A (CSA). The protein is unstable to heating at 56 °C for 30 minutes losing its FK-506 binding affinity. The FKBP12.6 protein is isolated from the cytosol of mammalian tissues, preferably bovine or human brain tissue, and can be used in diagnostic and purification procedures involving FK-506-type macrolide immunosuppressants. The FKBP12.6 protein also has peptidyl-proline isomerase enzymatic activity, catalyzing the cis-trans isomerization of proline-containing peptide bonds. In addition, FKBP12.6 binds to and inhibits the phosphatase calcineurin in the presence of FK-506.